MONTANA DEPARTMENT OF TRANSPORTATION
JOB PROFILE AND EVALUATION

SECTION I - Identification

Working Title: Programmer Analyst   Department   Transportation
Job Code Number: 151516   Division & Bureau Information Service
                                                                    Technical Operations
Job Code Title: Computer Systems Analyst Section & Unit   Applications
Pay Band: 6
Position Number :   20003, 20005, 23002, 25027, 81025, 20009, 20040, 23010, 25014, 81013, 81020, 81021, 81026, 81108, 81117, 81118

Career ladder 3-0198

Work Address   2701 Prospect Ave
                    Helena, MT 59620   Phone

☐FLSA Exempt   X FLSA Non-Exempt

Profile done by: Kristi Antosh   Work Phone   444-6274

Work Unit Mission Statement or Functional Description

The Information Services Division (ISD) provides a full range of services for the Montana Department of Transportation (MDT). The bureaus within the division plan and set policy, and coordinate, design, install and maintain the department's information technology infrastructure. This includes network management, server systems administration, desk top and mobile computer systems administration, database administration, applications development and maintenance, integrated systems development, Internet and Intranet web page developments, data security & disaster recovery services, geographic information systems (GIS), global positioning systems (GPS), roadway information collection, user support, training, imaging services, duplication services, IT research and development, budget development and monitoring, procurement administration, contract administration, and project management. The division also includes the MDT Duplicating Services Section.

Describe the Job's Overall Purpose:

This position will perform both systems analysis and design and programming tasks individually or as a member of a project team in support of the Department of Transportations day-to-day operations. During the systems analysis phase of a project, the incumbent will use or adapt as necessary the most current systems analysis and design methodologies from computer science including methods of business process analysis to effectively determine the requirements for a new system or the changes to be made to an existing system. Once the requirements have been documented, he or she will translate the requirements into computer code, and write and test the necessary programs. The position will also train users and assess user satisfaction with the completed project.

SECTION II - Major Duties or Responsibilities   % of Time

A.   **Applications Analysis** (60%)

Use currently accepted methods of business process analysis and systems analysis and design to model existing processes, tasks, and interfaces within the department of transportation to carefully and accurately determine business needs and the most effective tools to use to meet those needs.

> 1)   Understand and apply the principles of Systems Analysis and Design at the application level and the system level to improve the completion of a variety of existing business tasks within the department.
>
> 2)   Actively participates as a team member in both the analysis and development phases of information technology projects within the division and department. Develop solutions to create systems and programs which effectively and efficiently mirror or improve existing business systems.
>
> 3)   Conduct carefully prepared interviews to fully understand the workings of the process to be analyzed. Review answers for sufficiency and completeness. Ask for clarification or additional information as necessary. Determine that enough information is available to make any necessary decisions.
>
> 4)   Performs or directs revision, repair, or expansion of existing computer systems and programs to increase operating efficiency or adapt to new requirements. Carefully evaluates the interdependencies between the program to be modified and any other existing programs, database interfaces, re-usable code modules, department business practices, and user interactions.
>
> 5)   Create appropriate models and documentation to support and explain the results of all analysis tasks.
>
> 6)   Review models with all stakeholders to insure the process is understood and correctly modeled.
>
> 7)   Recommend a solution to the stakeholders. If new systems development work is required and agreed upon by all stakeholders, present the solution to the development team.
>
> 8)   Becomes primary contact for certain systems and applications and retains back-up responsibilities on others.

B.   **Computer Programming** (40%)

Assess the available programming environments within the department and determine what specific environment or mix of environments best suits the programming task to be accomplished and the needs of the program's users.   Suggest the adoption of new environments if applicable. Design, write, and test computer programs based on the results of the analysis phase of the systems design process. Thoroughly test the programs, train users, and assess user satisfaction with the end product.

1)   Provides scoping and manages scope changes appropriately (including level of effort, time estimates and resource needs and impacts) on projects within an application group or division.

2)   Determine the best interface for the project based on assessment of user needs and capabilities and the available development environments.

3)   Assists in business process analysis activities with senior staff and ensures functional specifications are documented along with the technical specifications.

4)   Thoroughly test systems and programs created at every stage using the best available testing techniques developed in computer science.

5)   Conducts both user and staff training when needed. Responsible for developing all training materials and coordinating training events.

6)   Able to effectively lead small project efforts.

7)   Create or update systems documentation to match program development and changes.

8)   Maintain confidentiality of all sensitive issues and data.

1. The most complicated aspect of this position is?

    A computer systems analyst needs to develop and use appropriate questioning, listening, and observation techniques to ensure he or she thoroughly understands the needs of users and stakeholders in all development projects. The position requires the ability to listen carefully and thoroughly analyze systems before any programming efforts are undertaken. Once an analysis is completed and stakeholders and users agree on the results, the analyst will determine the appropriate computing environment and interface for the project. The identified needs will then be translated into accurate and complete computer programs. Finally, the programs will be thoroughly documented and tested before final release to the users.

2. What guidelines, manuals or written procedures support this position?

    Laws, regulations, guidelines, manuals or procedures available to the incumbent include MCA, ARM, Information Services Division policies and operational procedures, system manuals and documentation, Montana Operations Manual, SABHRS manuals, MDT ISD and

state information technology standards, department operating procedures, and technical system references. Primary guides for the work are found in standards of the profession and current best practices in information technology.   Available references include various software and system manuals and technical documentation.

4. Does this position supervise others?   ☐ Yes   ☒ No
   Number directly supervised: .
   Complexity level of the positions supervised   .
   Position Number(s) of those supervised   .

5. This position is responsible for:
   ☐ Hiring   ☐ Firing   ☐ Supervision   ☐ Pay Level
   ☐ Performance Management   ☐ Promotions   ☐ Discipline
   ☒ Other: Provides limited work direction to others

6.   Attach an Organizational Chart.

SECTION III - Minimum Qualifications - List minimum requirements for the **first day** of work.

Critical knowledge and skills required for this position:
Knowledge

Principles of Systems Analysis and Design, Computer Programming, Project Managment, Customer Service

Skills

Reading Comprehension, Active Listening, Writing, Speaking, Critical Thinking. Active Learning, Learning Strategies, Service Orientation, Complex Problem Solving, Operations Analysis. Technology Design, Programming, Troubleshooting, Quality Control Analysis, Judgment and Decision Making, Systems Analysis

Behaviors required to perform these duties?
Plan, Organize, Gather Information and Conduct Research
Define an end result. Set or follow a course of action to achieve it. Anticipate potential obstacles and monitor progress. Organize tasks into component parts in a rational, methodical way. Collect and use relevant information, data, and opinions.

Identify Problems
Assess situations in a logical and methodical way based on facts. Seek root causes. Recognize patterns, connections, themes, and issues. See implications and consequences of a situation or information.

Take a Reasonable, Logical Approach to Solving Problems
Develop feasible solutions based on logical assumptions and factual observation that reflect consideration for resources, constraints, organizational values and goals.

Prioritizing, Multi-tasking, Balancing Multiple Projects
Recognize or establish the relative importance of multiple issues, tasks, and opportunities to maximize the productivity of the organization.

Quality, Accuracy, Attention to Detail
Achieve excellent work results by attending to details. Demonstrate an appropriate level of precision to complete projects successfully and to execute job responsibilities in a timely manner.

Results Oriented
Achieve goals and bring projects to completion. Investigate, calculate, and proceed through a project or task to bring about a conclusion. Persist and stay focused when faced with a series of challenging or uncertain situations. Demonstrate a concern for working well or for competing against a standard of excellence.

Listening
Give full attention to and make a conscious effort to hear other's ideas, concerns, questions, and issues with interest, empathy, and objectivity. Paraphrase and ask questions to ensure understanding of the message when required.

Responsiveness, Follow up
Assumes responsibility for and delivers on commitments to the customer. Initiates contacts to clarify issues or problems in a timely manner. Keeps the customer up-to-date about projects.

Understanding, Sensitivity, Trust Building
Interact openly and honestly. Encourage others to express viewpoints. Listen and respect different viewpoints. Address misunderstandings directly with those involved. Maintain confidences. Demonstrate an awareness of nonverbal as well as verbal communication. Elicit trust from others by showing honestly, reliability, and integrity.

Speaking Effectively
Express and present thoughts and ideas clearly, succinctly, and in an understandable manner individually and in a group. Adjust language, delivery, or terminology to meet the needs of the audience. This competency includes any type of verbal communication such as giving presentations, providing training, giving testimony, speaking in person or by phone.

Writing Effectively
Express and present information and ideas in writing which is clear, succinct, and understandable. Adjust the language, writing style, and terminology used to meet the need and level of understanding of the reader. Utilize knowledge of the structure and content of the English language, including the meaning and spelling of words, rules of composition, and grammar. (This competency includes any type of formal or informal written communication: i.e. letters, reports, studies, presentations, articles, rules, policies, procedures, and manuals.)

Troubleshooting
Determining causes of operating errors and deciding what to do about it.

Analytical Thinking
Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems.

Customer Service Oriented
Assumes responsibility for and delivers on commitments to the customer. Initiates contact to clarify issues or problems in a timely manner. Keeps the customer up-to-date about activities.

Education:
Check the <u>one box</u> indicating **minimum** education requirements for this position for a new employee the **first day** of work:

☐ No education required ☐ Related AAS/2-years college/vocational training
☐ High school diploma or equivalent ☒ Related Bachelor's Degree
☐ 1-year related college/voc. training ☐ Related Master's degree

Required/Acceptable degrees: Bachelor's Degree in Computer Science or a closely related field such as Information Systems Design or Computer Programming. Other programming degrees will be acceptable with a minimum of 4 years of programming experience.

Related degrees/formal education:

Other education, training, certification, or licensing required (specify): Expertise in SQL (Standard Query Language), with working knowledge of the Oracle RDBMS and its associated tools, or a similar working knowledge of another environment.

Experience:
Check the <u>one box</u> indicating **minimum** work-related experience requirements for this position for a new employee the **first day** of work:

☐ No prior experience required ☒ 3 to 4 years
☐ 1 to 2 years ☐ 5 or more years

Other specific experience (optional):

Alternative Qualifications:
This agency will accept alternative methods of obtaining qualifications. ☒ Yes ☐ No

BA/BS in Computer Information Systems (CIS) or Computer Science (CS) and 4 years programming and analysis experience **OR** AS in CIS/CS or a BA/BS in a non-related field plus 6 years of programming and analysis experience **OR** AS degree in non-related field plus 8 years of programming and analysis experience **OR** 10 years of programming and analysis experience.

SECTION V – Signatures

Signature indicates this statement is accurate and complete.

Employee:

Name: Title

Signature   Date

Immediate Supervisor:
Kevin Kauska   Applications Team Supervisor
Name: Title

Signature   Date

Division/District Administrator:
Michael G. Bousliman   Division Administrator
Name: Title

Signature   Date

Department Designee:
Jennifer Jensen   Human Resources Administrator
Name: Title

Signature   Date

Recruitment Review: My signature below attests to my review of and determination that the minimum qualifications (education and experience) listed in this profile meet the established recruitment standards of MDT.

                               Human Resource Specialist (Helena/District)
Name: Title

Signature   Date